

CLAIMS

1. A method for the detection of ryanodine receptor
5 antibodies in patient serum samples, said antibodies being
associated with the disease myasthenia gravis, said method
comprising the following steps:

(a) obtaining a serum sample from a patient suspected
10 of having myasthenia gravis or being at risk for the
development of said disease;

(b) contacting said serum sample with a composition of
fusion proteins comprising the following sequences: SEQ ID
15 NO 1 or SEQ ID NO 2;

c) detecting fusion protein-antibody complex
formation, wherein said detected complexes indicate the
presence of ryanodine receptor antibodies.

20 2. The use of the fusion proteins comprising the
following sequences: SEQ ID NO 1 or SEQ ID NO 2 for the
detection of RyR antibodies.

25 3. A diagnostic kit for the detection of ryanodine
receptor autoantibodies in patient serum samples, said
autoantibodies being associated with the disease myasthenia
gravis, said kit comprising fusion proteins having the
following sequences: SEQ ID NO 1 or SEQ ID NO 2.

30 4. The diagnostic kit of claim 3, wherein the
immunodetection reagent is a radiolabelled reagent.

35 5. The diagnostic kit of claim 3, wherein the presence of
pc2 or pc25 fusion protein antibodies is indicative of a
the presence of a thymoma

6. A composition of fusion proteins useful for the detection of ryanodine receptor antibodies, which are associated with the disease myasthenia gravis, said
5 proteins being selected from the group of proteins having of a sequence SEQ ID NO 1 or SEQ ID NO 2, or a combination of said sequences.

7. A method for the manufacture of a pharmaceutical agent
10 for the prevention and/or treatment of the disease myasthenia gravis, wherein said agent is administered to a patient in need thereof, in a amount sufficient to inhibit the binding of ryanodine receptor antibodies to the ryanodine receptor, said composition comprising a panel of
15 fusion proteins having sequences SEQ ID NO 1 and/or SEQ ID NO 2.

8. A method of myasthenia gravis prognosis which involves the determination of the presence of RyR antibodies wherein
20 the RyR antibodies are identified by the use of the fusion proteins pc2 and pc25.